Geomatrix

February 22, 2008
013636.000

Mr. J. Ryan Benefield, P.E.
Chief, Hazardous Waste Division
Arkansas Department of Environmental Quality
8001 National Drive
Little Rock, Arkansas 72219-8913

Subject: Responses to ADEQ Comment Letter dated February 4, 2008
Facility Investigation Workplan (FIWP) dated January 18, 2008
Cedar Chemical Company Facility, Helena-West Helena, Arkansas
EPA ID No: ARD990660649, AFIN – 54-00068

Dear Mr. Benefield:

On behalf of Exxon Mobil Chemical Company., and Helena Chemical Company, which comprise the Cedar Chemical Corporation Joint Defense Group ("the Group"), Geomatrix Consultants, Inc. (Geomatrix) is pleased to provide the Arkansas Department of Environmental Quality (ADEQ) with our response to the above-referenced letter. Our response addresses the comments outlined in your letter noted as bulleted items 1 through 7. For clarity, the ADEQ comments are reproduced in *italics*, and our response follows immediately after each comment. Geomatrix, on behalf of the Group, will submit a revised copy of the Facility Investigation (FI) Workplan once the ADEQ has reviewed, commented and/or approved these responses.

ADEQ Item 1: It is recommended the FIWP contain information on the proposed new monitoring well development if it is still your intent to install new monitoring wells as part of the site investigation.

Response to Item 1: The Group agrees with this comment, and will add a description of well development procedures to Section 3.1 of the FIWP. The added language will state that all new wells will be developed after installation, using surging, pumping, bailing, or a combination of these methods, and that development will be considered complete when produced groundwater is visibly free of turbidity, and pH and specific conductance are stable within 10 percent for four consecutive casing volume removals.

ADEQ Item 2: In Section 3.1, paragraph 2, bullet 1, the text mentions the use of rotasonic drilling for the installation of perched wells. However, Section 1 mentions perched wells will be installed using hollow stem augers. This discrepancy should be amended. You should be mindful that the Cedar site has unconsolidated sands and silts. With these types of soils the use of rotasonic drilling can be challenging. However, the rotasonic drilling method has been used at other sites near the Cedar location and has proven to be effective.

5725 Highway 290 West, Suite 200B
Austin, Texas 78735-8722
Tel 512.494.0333
Fax 512.494.0334
www.geomatrix.com

Response to Item 2: Section 1 will be changed to reflect the use of rotasonic drilling methods instead of hollow-stem auger drilling methods for new well installations in the perched zone. The rotasonic method of advancing casing as drilling proceeds acts to isolate different water-bearing zones during drilling and well installation; this effectively meets the requirements of the ADEQ's guidance on well installation. The Group concurs with ADEQ's conclusion that rotasonic drilling is a proven technique for the site.

ADEQ Item 3: In Section 3.4 sample collection for laboratory analysis in all areas except for the drum vault are proposed to be taken less than 5 feet below the surface. Samples at the drum vault are proposed to be collected about 5 feet below the drum vault foundation. Soil samples collected in 2005 at the drum vault area identified dinoseb concentrations ranging from 38 ppm to 225 ppm between 16 and 23 feet below the surface. Targeting shallow sampling points within the areas identified within this section for further investigation does not seem to meet the objective of filling in data gaps for the future development of a feasibility study. Please amend the sampling investigation approach for each area in order for a full (at depth) investigation to take place. The focus of the FIWP should be to collect enough data to determine the full extent of horizontal and vertical contamination at the site.

There is no mention of conducting any further investigation of the existing wastewater treatment ponds. ADEQ feels that sludge samples and sludge thickness would be necessary in order for the volume calculations to be complete in the feasibility study. Please amend the FIWP to include investigation of the wastewater treatment ponds.

Response to Item 3: As discussed in our meeting with ADEQ on February 12, 2008, the focus of the soil investigation at the drum vault, former dinoseb disposal ponds, and process areas is to identify possible source areas that may need to be addressed as part of a site remedy, rather than to provide a detailed delineation of the vertical and horizontal extent of each constituent in site soils. Given observed conditions at the site, it appears likely that impact from several constituents extend to shallow groundwater. The Group anticipates that, with the exception of identified source areas, the preferred remedy for subsurface soils will likely focus on exposure control.

With that said, the Group does agree that is would be useful to improve the level of detail in our understanding of the locations of soils that may be a source of groundwater impact. The Group therefore proposes to add additional rotasonic borings shown on the attached figure near Unit 6, the drum vault, and at the downgradient edges of remaining units (1 through 5), to characterize the depth and occurrence of groundwater in the process areas. Additional DPT borings will be advanced at locations (also depicted on the attached figure), including suspected waste burial pits in the process area identified by ADEQ. Three of these process area DPT boring locations will

be selected in consultation with ADEQ for a more expanded sampling protocol. Samples from the three selected borings will be retained for analysis from 0-2 feet below ground surface (bgs) and from 10 foot depth intervals beginning at 10 feet bgs until groundwater is encountered. These samples will be analyzed for the full parameter list. In addition, approximately 10 of the DPT borings planned in the process areas will be completed as temporary wells, and a groundwater sample will be collected and analyzed for a full parameter list at each of these locations.

With respect to the existing wastewater ponds, the Group suggests that assessment of the sludge from these ponds is not a useful exercise at this time, because the use of the ponds will continue into the foreseeable future. Any assessment performed will therefore immediately become dated. When and if the ponds are closed, the thickness and character of sludge should be evaluated as a part of that closure. In the meantime, the Group will continue to evaluate the ponds through assessment of the groundwater in their vicinity, as described in the FIWP.

ADEQ Item 4: In Section 3.5, paragraph 2, there is mention of temporary seals on the drum vault floor slab. ADEQ recommends the intrusions into the drum vault be permanently sealed instead of the proposed temporary seal since the roof of the maintenance building, in which the drum vault is located, leaks.

Response to Item 4: The FIWP discussion will be modified to note that the sealing material will be a grout or similar material, to address the potential for water leakage into the building. Reference to temporary seals will be deleted.

ADEQ Item 5: In Section 3.9, paragraph 2, there is discussion of the approach that will be used to collect information to update the well survey. ADEQ has found it helpful to contact the city and county offices to gather land and planning maps and to contact the water user associations in the general area of the site to obtain information regarding the domestic services offered in the area.

Response to Item 4: The Group appreciates this information. The suggested resources will be used to update the supply well survey information.

ADEQ Item 5: In Section 3.10 there is discussion about well abandonment. ADEQ has Plug and Abandonment procedures. These are included as an attachment to this letter.

Response to Item 5: The Group appreciates ADEQ providing this information, and the FIWP will be revised to comply with the ADEQ policy. In particular, shallow wells will not be abandoned by filling them with bentonite, as discussed in the FIWP. Instead, all wells will be

abandoned by pulling the casing, drilling out the annular materials, and grouting the resulting borehole.

ADEQ Item 6: In the QAPP (Appendix A), Section 3.4.1, the list of groundwater parameters is not consistent with the list of groundwater parameters mentioned in the previous Sampling and Analysis Plan Summary. This discrepancy needs to be corrected and/or justified.

Response to Item 6: The FIWP constituent list includes the same compounds listed in the Sampling and Analysis Plan Summary with the exception of hexavalent chromium and the general groundwater chemistry parameters (e.g., major ions, pH, etc.). For the FI, hexavalent chromium was removed from the list since there is no evidence of its presence in soil or groundwater; all observed chromium has been the trivalent form. The general groundwater chemistry list was expanded since those parameters will be of potential use in supporting remedy decisions. The FI Workplan will expand the discussion of the January 2008 groundwater sampling event, identify the analyte list used for that event, and discuss the rationale for differences between that analyte list and the list planned for other groundwater sampling.

ADEQ Item 7: There is some concern the testing proposed in the QAPP will not adequately characterize the contamination at the Cedar site. There were several chemicals produced at the site that will not show up by using the analytical methods proposed in the FIWP. At a minimum, the lab should use the EPA Method 8270 to look for herbicides and pesticides. The ADEQ lab uses a separate multicomponent standard when testing for pesticides.

Response to Item 7: In an email from ADEQ dated February 14, 2008, ADEQ agreed with the analytical methods proposed in the FIWP and also requests that Tenatively Identified Compounds (TICs) be reported. TICs will be run for pesticides and herbicides only. In the event TIC concentrations may represent a concern, ADEQ and the Group will have a more focused discussion of those particular TICs and their significance. The FIWP will be amended to include this information. .

Although the topic of handling investigation derived waste (IDW) was not specifically mentioned in this response letter, ADEQ requested in our February 12 meeting that the Group describe how IDW will be classified with respect to hazardous vs. non-hazardous. Based on our understanding of the Cedar Chemical processes and chemical data observed to date, it is the Group's conclusion that IDW will not be classified as listed hazardous wastes pursuant to 40 CFR 261 Subpart D. These wastes may potentially be classified as hazardous wastes based on the Toxicity Characteristic, depending on chemical levels observed in the IDW. IDW will be managed according to analytical results from the media generated during the FI.

Geomatrix appreciates the opportunity to the ADEQ regarding these comments. Should you have any questions, please contact me at 512 494-0333.

Sincerely yours,
GEOMATRIX CONSULTANTS, INC.

Kelly Beck, P.G.
Project Manager

Enclosure: Figure

cc: Tammie Hynum, ADEQ Active Sites Branch Manager
Ed Brister, Helena Chemical Company
Dave Roberson, DeMaximis, Inc.
Allan Gates, Mitchell Williams Selig Gates & Woodyard, P.L.L.C.
Mark Zuschek, Exxon Mobile
Steve Walker, Terra Environmental Services, Inc.
Kim Burke, Steetinius & Hollister, LLP
Dave Backus, EnSafe
Joe Ghormley, Quattlebaum, Grooms, Tull, & Burrow P.L.L.C.